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Subject OPOG Responses to EPA 2-8-06 MIP/SVS Comments

History:  This message has been forwarded.

Chris:

Attached for your review are OPOGs responses to EPAs February 8, 2006 MIP/SVS comments. Per EPA comments and discussions during the February 13, 2006 EPA and OPOG teleconference call, contour figures are presented to display hot spots and the distribution of contaminants in soil gas. Also, a cross section of the ECD sensor is provided. We are in the process of preparing a lithologic cross-section that will be submitted as part of future correspondence.

We are looking forward to discuss the contents of this response package during our March 1, 2006 teleconference call. Lastly, Chris can confirm that you are available for a 9:00 am PST teleconference call versus a 10:00 am PST.

If you have any questions or require additional information, please contact me.

Sincerely,
Edward Modiano
Project Coordinator
Omega Chemical Site PRP Group

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Responses to 2_8_06 MIP comments_final_.pdf

Responses to EPA Comments Dated February 8, 2006
On-Site Soils RI/FS Work Plan Addendum No. 2
Summary of Initial Findings from Soil Vapor and MIP Sampling
(CDM, January 27, 2006)

General Comments

1. Comment numbers 3 and 6 from EPA's letter dated November 10, 2005 were addressed, the remaining comments are pending. Comments related to additional sampling and data evaluation should be incorporated into the subject document and the upcoming field investigation. The remaining comments should be addressed in future documents.

Response: As agreed by EPA during the February 13, 2006 EPA and OPOG teleconference call, the subject document will not be revised. The remaining comments will be incorporated into the upcoming field investigation and will be addressed in the RI Report.

2. EPA wants OPOG to perform one final field data collection effort before preparing the Remedial Investigation (RI) report. A synthesis of all on-site soil investigation data is necessary to understand the distribution of contaminants in the vadose zone and the lithology, and to plan the final field investigation effort such that it will complete the vadose zone characterization. Now is the time to perform the data analysis that will support and become part of the RI report; a field sampling effort that leads to a successful completion of the site characterization will demonstrate a sufficient understanding of the site contaminant distribution (i.e., the sampling is intended to confirm the conceptual model of the contaminant distribution in the vadose zone at OU-1). The sampling must satisfy the objectives and criteria specified in Section 2 of the Final On-Site Soils RI/FS Work Plan Addendum No. 2, dated August 17, 2005. The evaluation will provide higher certainty that the field investigation will be completed. Specific comments below and in EPA's November 10, 2005 letter address the additional evaluation to be performed and sampling approach to be implemented.

Response: Per the conference call with EPA on February 13th, additional analyses of the data (including contour mapping of soil vapor concentrations) are being provided concurrent with this comment/response summary. Further evaluations of all collected data will be provided in the RI report, and EPA has agreed that the Technical Memorandum (CDM, January 27, 2006) will not be revised/resubmitted.

3. Clarify what is meant by the term "source" in various parts of the document. Clarify, as necessary, whether "source" means an area with high contaminant concentrations in soil (i.e., a source term in the context of contaminant fate and transport) or if it is an indication of the release of hazardous waste by a third party.

Response: We will distinguish between primary sources (areas where contaminants were likely released to the subsurface) and secondary sources where fluids with high concentrations of contaminants migrated on top of the “30 foot” clay.

Specific Comments

1. MIP-1 is located in highly contaminated soil that should be considered a “source area”, similar to the MIP-3 location. This would explain relatively high soil gas concentrations along the Medlin & Sons property boundary.

Response: MIP-1 and MIP-3 are considered source areas and that was the reason soil samples were collected adjacent to these locations.

2. Figures 15 to 19 are not legible (sample location labels and concentrations overlap).

Response: The figures will be revised for inclusion in the RI report.

3. Page 4, 3rd par. - The text says that the PID/ECD and soil gas/soil analytical results “compare very favorably”. There is good agreement at some locations (e.g., MIP-3) but not at others (e.g., MIP-18). See also general comment 2 in the EPA letter of November 10, 2005.

Response: The text will be clarified in the RI report.

4. It would be helpful to better characterize the lithologic character of the 30-foot clay layer (see also comment 9 below). This high conductivity zone does not always correlate to clay layers identified in boring logs. It may be a paleosol horizon with high content of clay minerals causing its conductivity response signature. Its dip to the southwest also suggests that this material formed in the depositional direction of the alluvial fan derived from the Puente Hills. Soil samples for visual description and laboratory analysis should be taken from the new borings.

Response: This zone has been described at MIP-1, MIP-3 and MIP-14 where soil sampling was conducted. Further soil sampling will be conducted as described in the response to Specific Comment 13 provided below.

5. Page 5, 1st par. - The VOC signature shown by pie charts is the same or similar for samples taken north of the Omega property and for samples taken along the southern boundary of the Omega property and south of Skateland. This is likely the result of chemical partitioning and degradation, or time and mechanism of release, rather than an indication of source areas outside the Omega property. The text implies a source of Freons at the Medlin & Sons property but not in the area south of Skateland. The text further states that an increase of PCE with depth may be due to the volatilization of contaminants dissolved in groundwater; then the relative increase of Freons in shallower depths would be consistent with this vapor phase transport pathway (see comment 19 in the EPA letter dated November 10, 2005). Similarly, the increased percentage of PCE southwest of the Omega property may be the result of migration of the waste liquids atop the 30-foot clay and along the water table in the southwest direction rather than an indication of another source in an area adjacent to the Omega property. The soil vapor data support the following conceptual transport model: Liquid phase contamination (as NAPL and dissolved in pore water) moved from the release area at the Omega property (likely near MIP-3)

atop of the 30-foot clay layer primarily in the southwest direction, penetrating the layer, and reaching groundwater along the way. The transport in the northwestern to western and southern to southeastern directions (and also transport to the northeast) was predominantly in the vapor phase. As a result, relative PCE concentrations are high along the liquid phase pathway and Freon 113 concentrations relatively increase along the vapor phase pathway.

Response: These items will be addressed in the RI report.

6. Page 6, 2nd par. – The last sentence “This suggests that other sources are present.” should be further supported or qualified (e.g., “may be present”), and explained (see general comment 3). It is possible that liquid waste releases at the ground surface on the Omega property resulted in contaminant migration via subsurface materials in the shallow zone to the area south of Skateland.

Response: The proposed next MIP and vapor sampling event (February 27th through March 9th) will collect additional data that are expected to be valuable in defining the presence/absence of other source areas. An updated site conceptual model will be provided in the RI report, and will include a detailed evaluation of both source areas and migration pathways as defined by the data.

7. Figures 19 to 22 – Clarify whether the displayed results are composites (e.g., average) or the highest detections for sampling locations where more than one sample was collected for the depth interval displayed on each map. VP-19 is mislabeled VP-17 on Figure 19.

Response: Where more than one result was available for a given depth, the higher concentration was used.

8. Prepare contour maps for total VOCs, PCE, and Freon 113 (plus any other compounds that OPOG/CDM selects) in addition to the pie chart maps (Figures 19 to 22). The contours will indicate potential source areas as well as locations where additional sampling is needed.

Response: Contour maps have been prepared and are provided in the attached PowerPoint file.

9. Attachment 2 - The boring logs show only two colors for all soil types described: brown and dark brown. Munsell soil color charts should be used in future sampling to more objectively describe the soil color. The standardized color classification helps characterize the depositional environment; this information in turn allows inferring the properties and geometry of lithologic units. Describe the rock type of the clast (e.g., granitic, quartz, siltstone, sandstone, etc.) instead of just “rock fragments”, some of which were over an inch across. Knowing if the clast material was derived from the Puente Hills or from more distant granitic/metamorphic outcrops would help determine its depositional environment (e.g., alluvial fan, fluvial channels, etc.).

Response: Future descriptions (e.g., in the RI report) will be done using Munsell soil color charts, and the lithology of large clasts noted.

10. Page 2, 2nd par. – State how the elevations were surveyed (e.g., using GPS?) and what is the (approximate) accuracy of the elevations. This is for documentation; high accuracy (such as for well casing elevations) is not requested for this survey.

Response: The elevations were surveyed using an automatic level (rented from a professional surveying equipment provider) with four OPOG wells (OW-1, OW-2, OW-3, and OW-7) used as reference points. Estimated accuracy of the measurements is +/- 0.1 feet.

11. Section 4, Figure 33 – Additional locations: Add two soil vapor (SV) probes between the Omega property and Whittier Boulevard (northeast of VP-19 and northeast of the 3 Kings Construction building), per general comment 4 of EPA's November 10, 2005 letter (the original comment did not specify the number of sampling locations). Add one MIP/VP location near the corner of Washington Boulevard and Putnam Street to characterize the extent of contamination southeast of MIP-22/VP-18 and the potential for indoor air vapor intrusion. Add one MIP/VP location southwest of MIP-25 (northwest of VP-17) to characterize the extent of contamination northwest of VP-17/MIP-19. Add one MIP/VP location southwest of MIP-19/VP-17 across Putnam Street. Add one MIP/VP location between MIP-27 and MIP-28, in the direction of the suspected liquid-phase transport pathway from the release area (near MIP-3) via MIP-21/VP-14.

Response: Based on the call with EPA on February 13, 2006, proposed MIP and vapor sampling locations are shown in the map that is the last slide of the attached PowerPoint file. OPOG/CDM is attempting to find accessible locations for the two requested vapor probes along Whittier Blvd. The requested MIP/VP location near the corner of Washington Blvd. and Putnam St., southwest of MIP 22, will be installed in the next event. The proposed MIP/VP locations to north (VP-26 and VP-27 to the northeast, VP-28 to the west, and VP-29 to the northwest) will initially be limited to soil vapor sampling only. The proposed location between proposed MIP-27 and MIP-28 will be contingent on the results from those two locations.

Drilling of the seven proposed MIP borings (MIP-25 through MIP-31) is estimated to require four days to complete and is scheduled for February 27th through March 2nd. Drilling and sampling of the 11 VP borings (VP-20 through VP-30) is estimated to require four days to complete and is scheduled for March 6th through March 9th. Following completion of the currently proposed MIP and VP sampling, the contingent MIP sampling, if required, has been tentatively scheduled for the week of March 27th.

12. Section 4, Figure 33 – Contingency locations: Add one contingency MIP/VP step-out further northwest of MIP-25; this location will be sampled if contamination is found at MIP-25. Contingency MIP/VP locations should be cleared southwest of MIP-21, MIP-22, MIP-23, and southwest of the requested MIP/VP (northwest of MIP-26, south side of Putnam Street); these will be sampled if contamination is found at the locations south of Putnam Street. These locations will also be used to assess the potential for indoor air vapor intrusion. A contingency MIP/VP location should be cleared southeast of MIP-29; this location will be sampled if contamination is found at MIP-29. A contingency MIP/VP location should be cleared southeast of MIP-30 (northeast of MIP-29); this location will be sampled if contamination is found at MIP-

29 or MIP-30. EPA will provide on-site representation to allow real-time decisions regarding sampling at the contingency locations.

Response: We will attempt to obtain access to the general contingency locations agreed to on the February 13th call with EPA. Specifically, we will identify and contact landowners for all potential step-out locations. Per the February 13th conference call, due to MIP rig availability, it is expected that the contingent locations will be sampled during the week of March 27th. These locations may be modified after the results of the sampling during the weeks of February 27th and March 6th are completed and the data evaluated. Contingent locations will be sampled if the currently proposed sampling identifies significant contaminant concentrations suggesting that a migration pathway is present.

13. Collect soil samples for VOC analysis from depth intervals of highly contaminated soil identified by the MIP responses.

Response: Soil sampling will be performed at MIP-8 and MIP-22 locations showing the highest relative detector responses.

Omega Contour Maps and Additional Sampling Locations

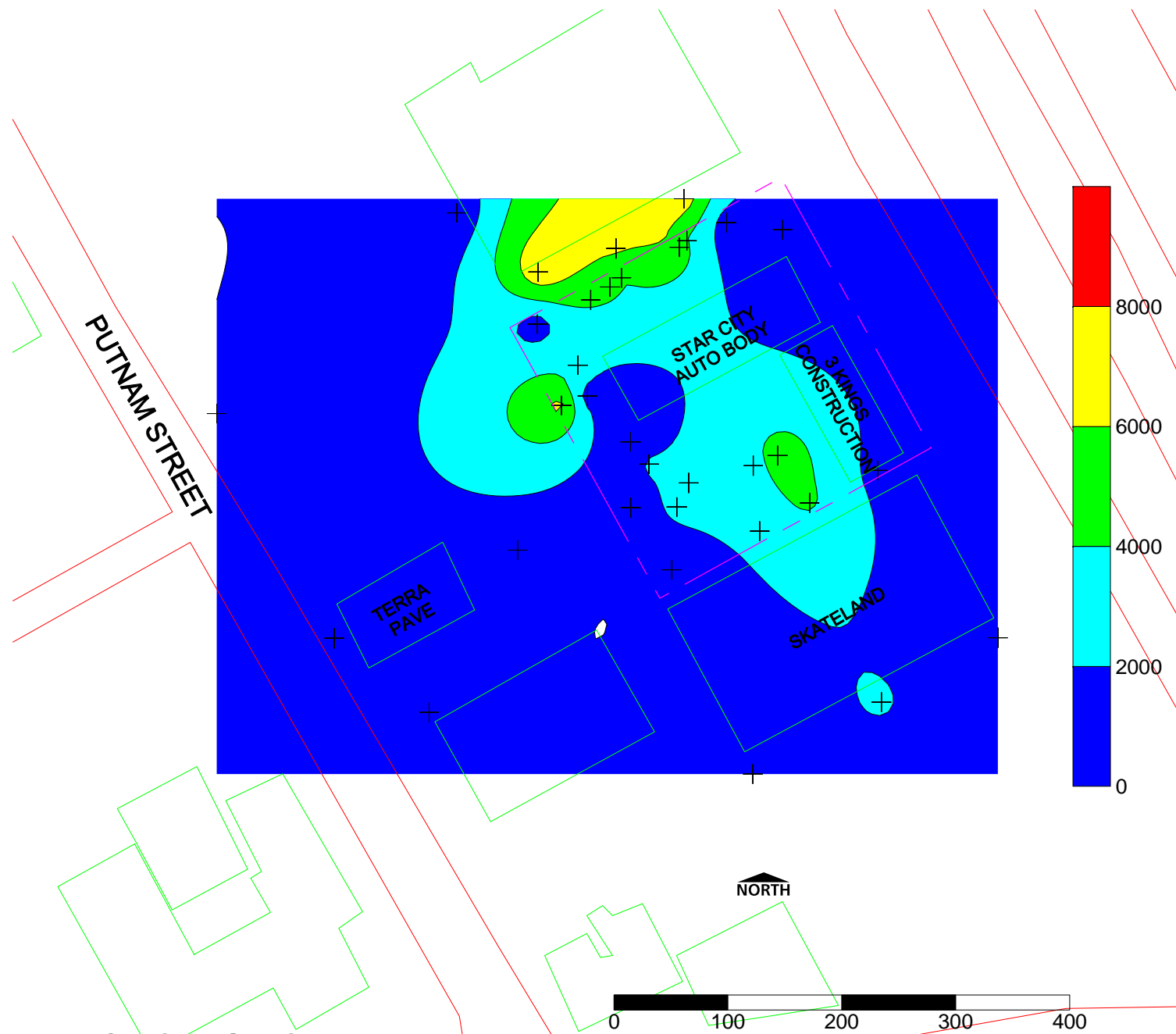


Figure 1. TVOCs (mg/m³) 0 – 15 feet bgs

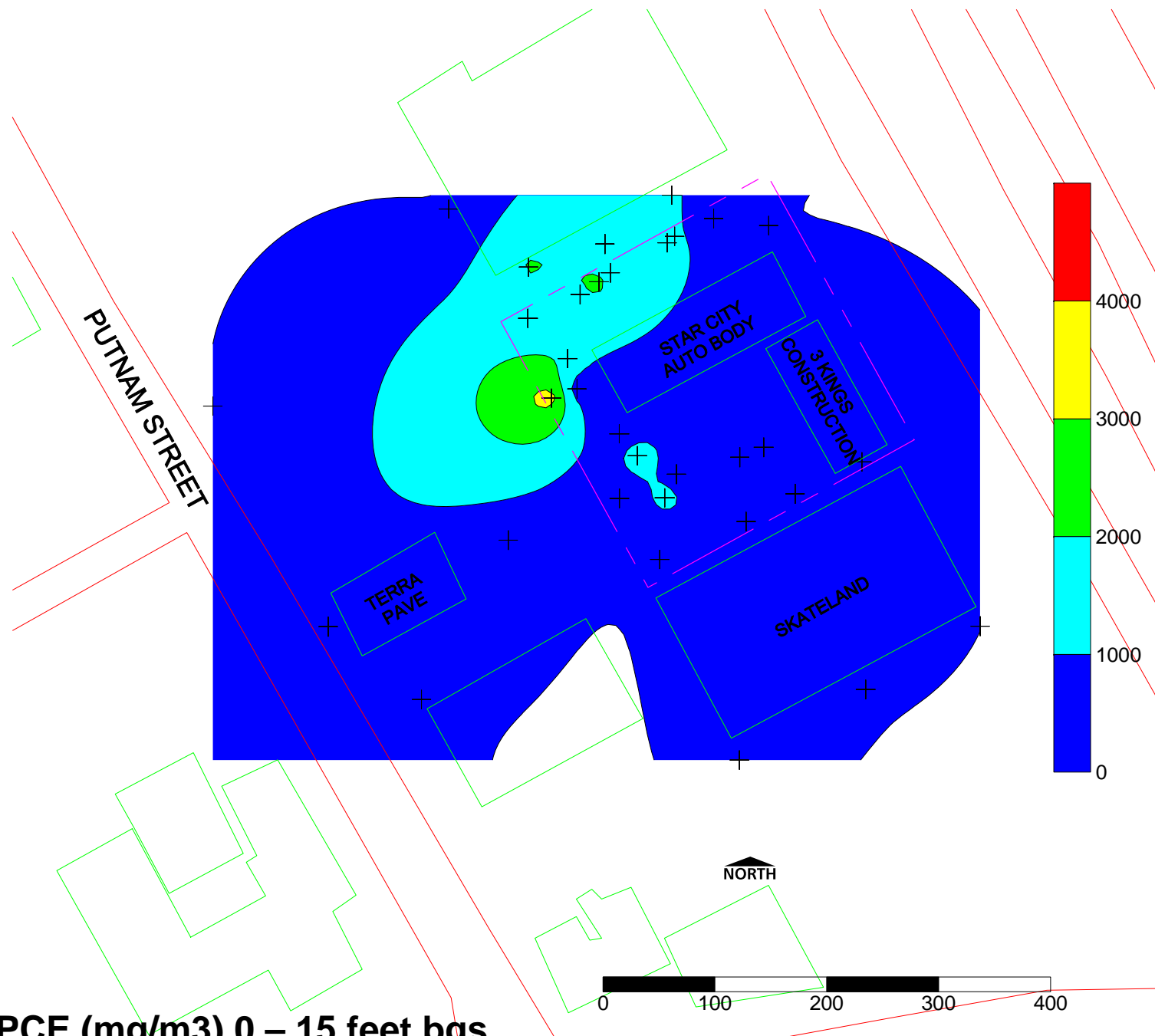


Figure 2. PCE (mg/m³) 0 – 15 feet bgs

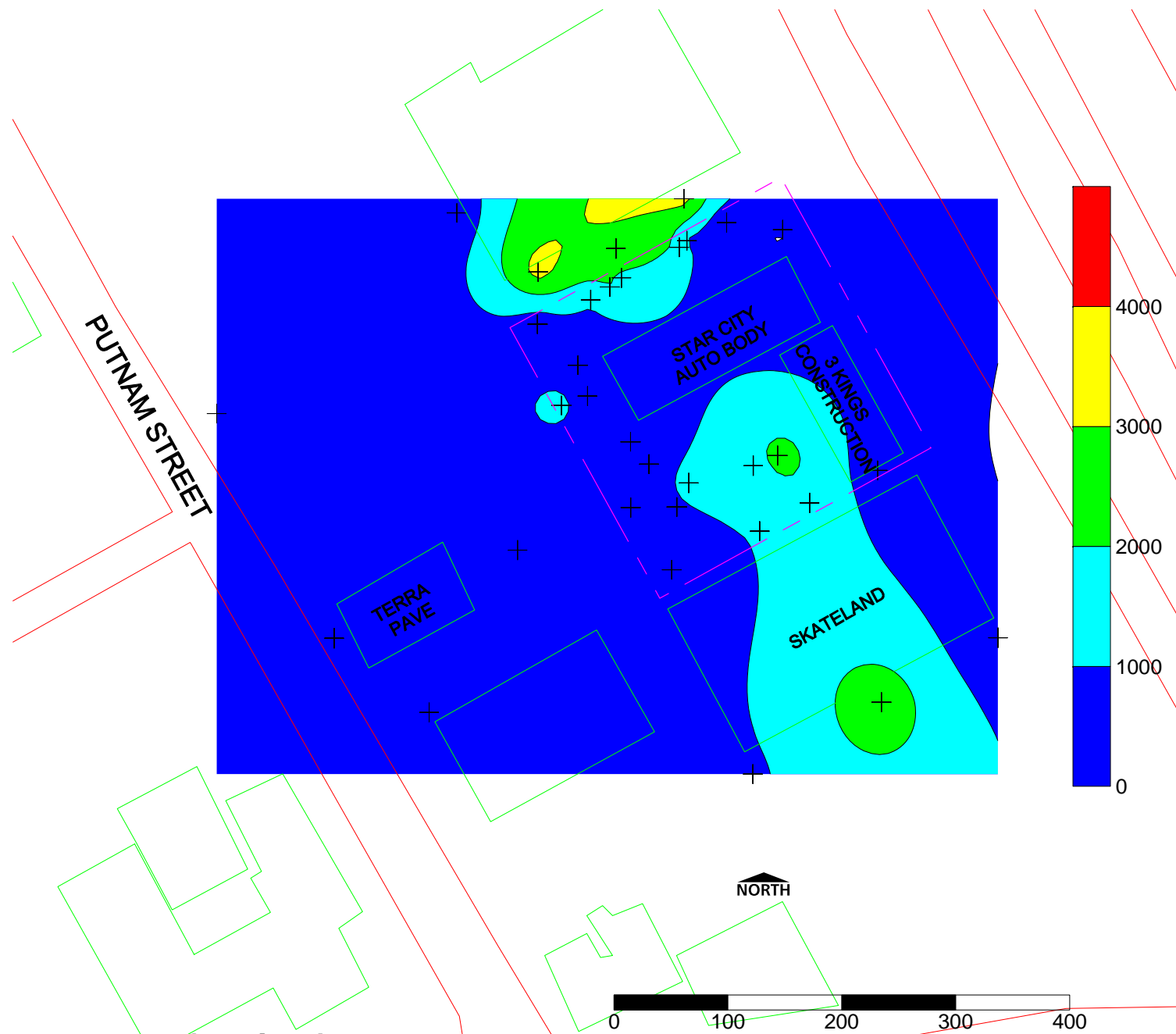


Figure 3. Freon-113 (mg/m³) 0 – 15 feet bgs

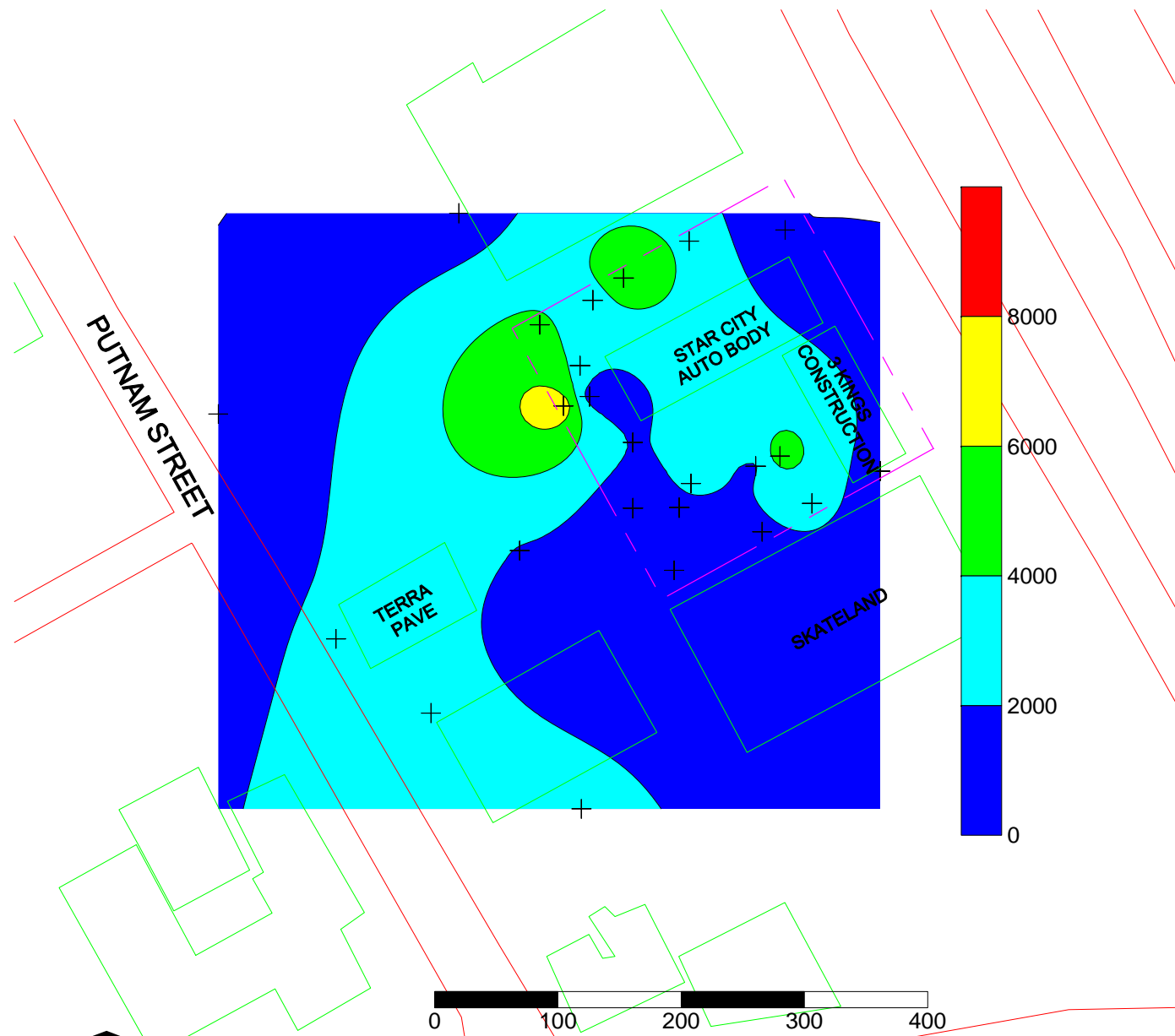


Figure 4. TVOCs (mg/m³) 15 – 30 feet bgs

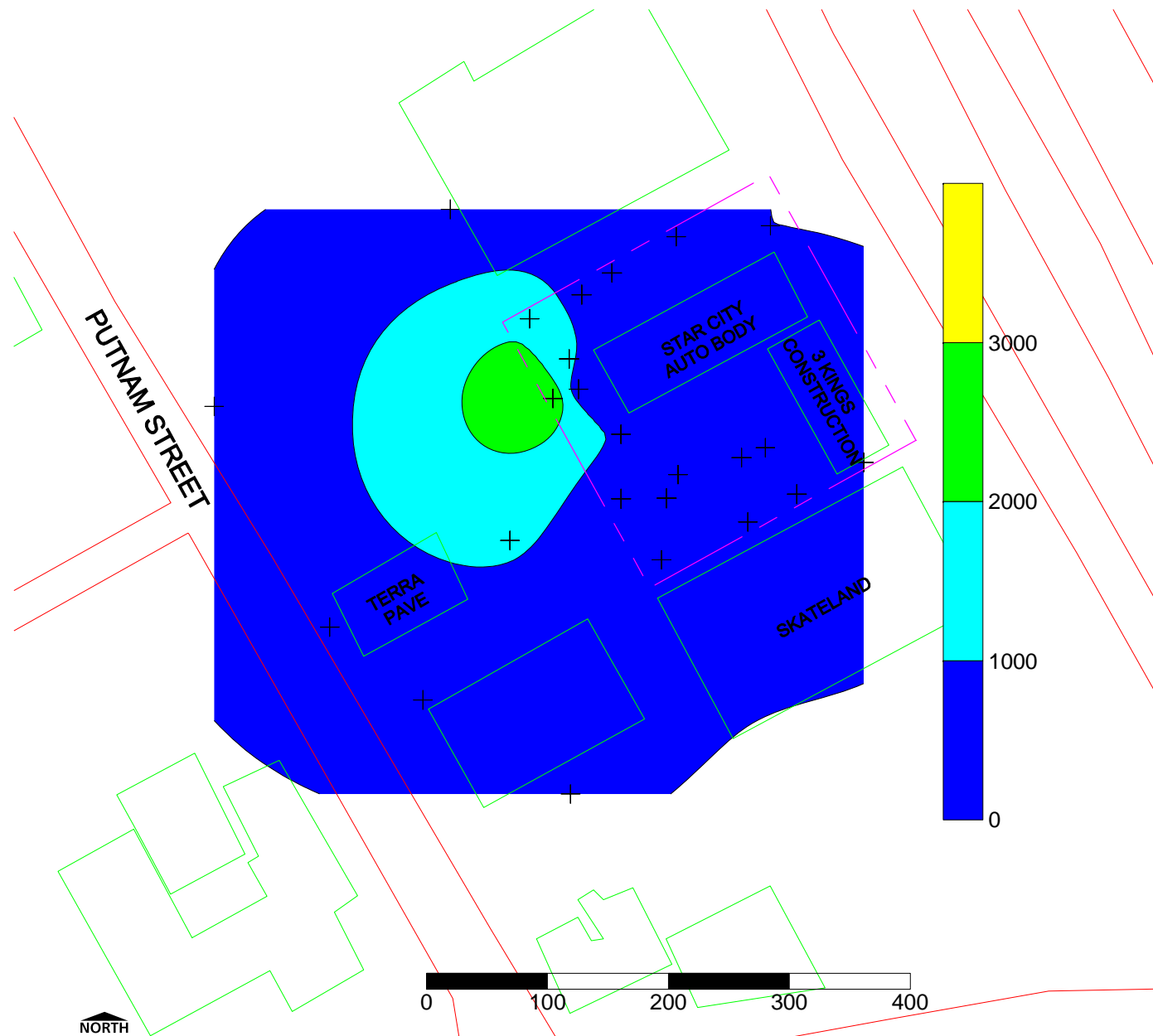


Figure 5. PCE (mg/m³) 15 – 30 feet bgs

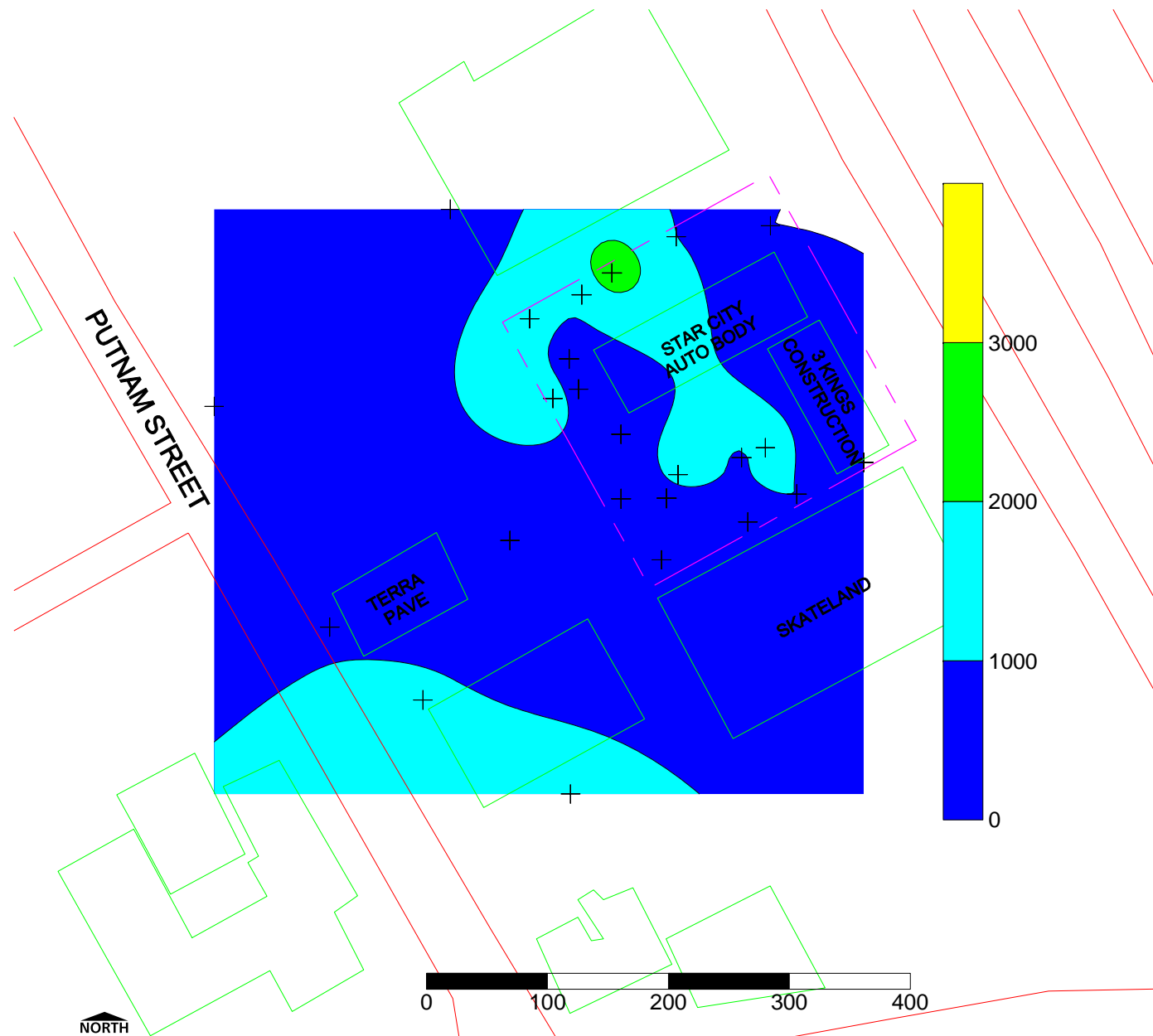


Figure 6. Freon-113 (mg/m³) 15 – 30 feet bgs

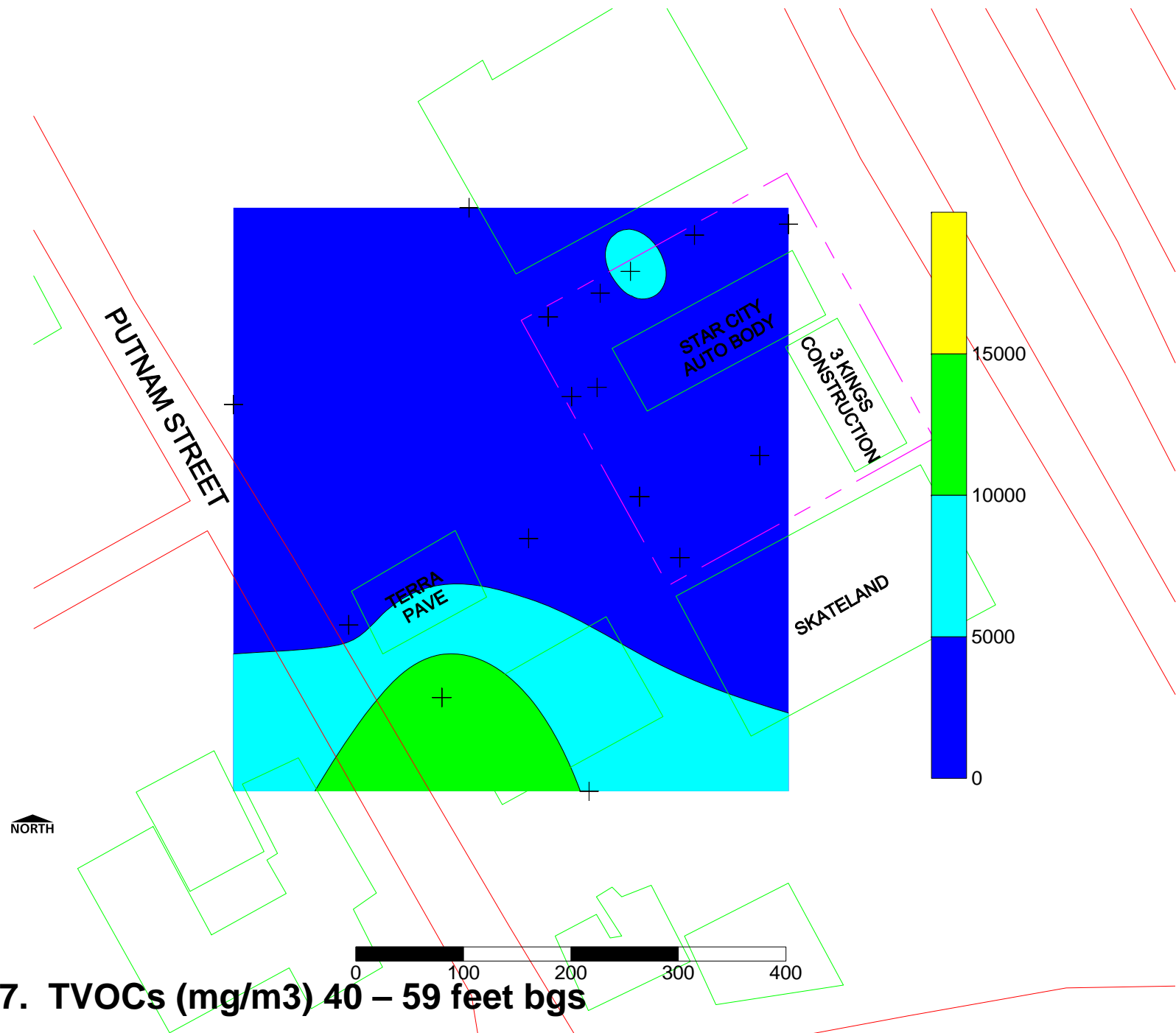


Figure 7. TVOCs (mg/m³) 40 – 59 feet bgs

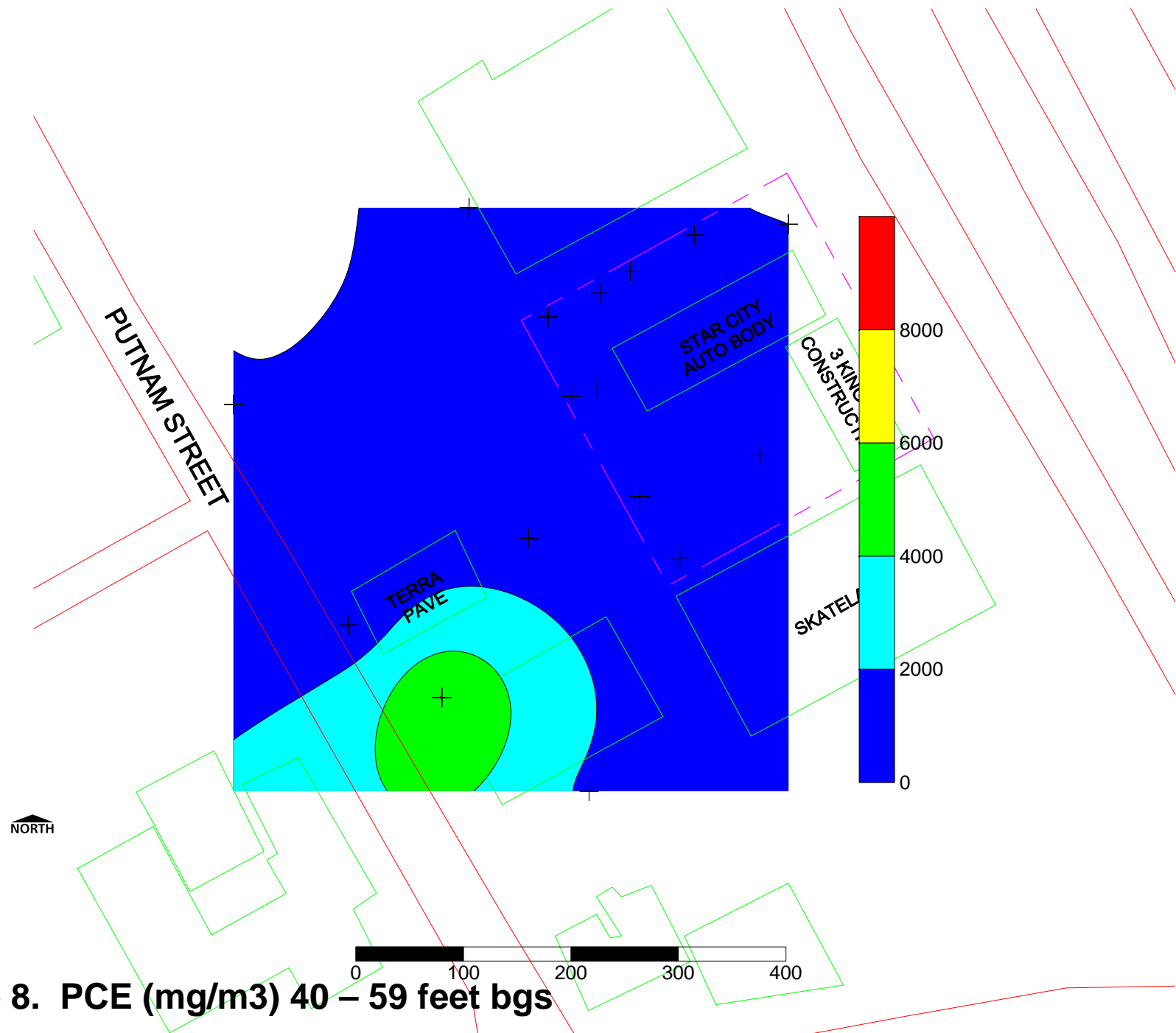


Figure 8. PCE (mg/m3) 40 – 59 feet bgs

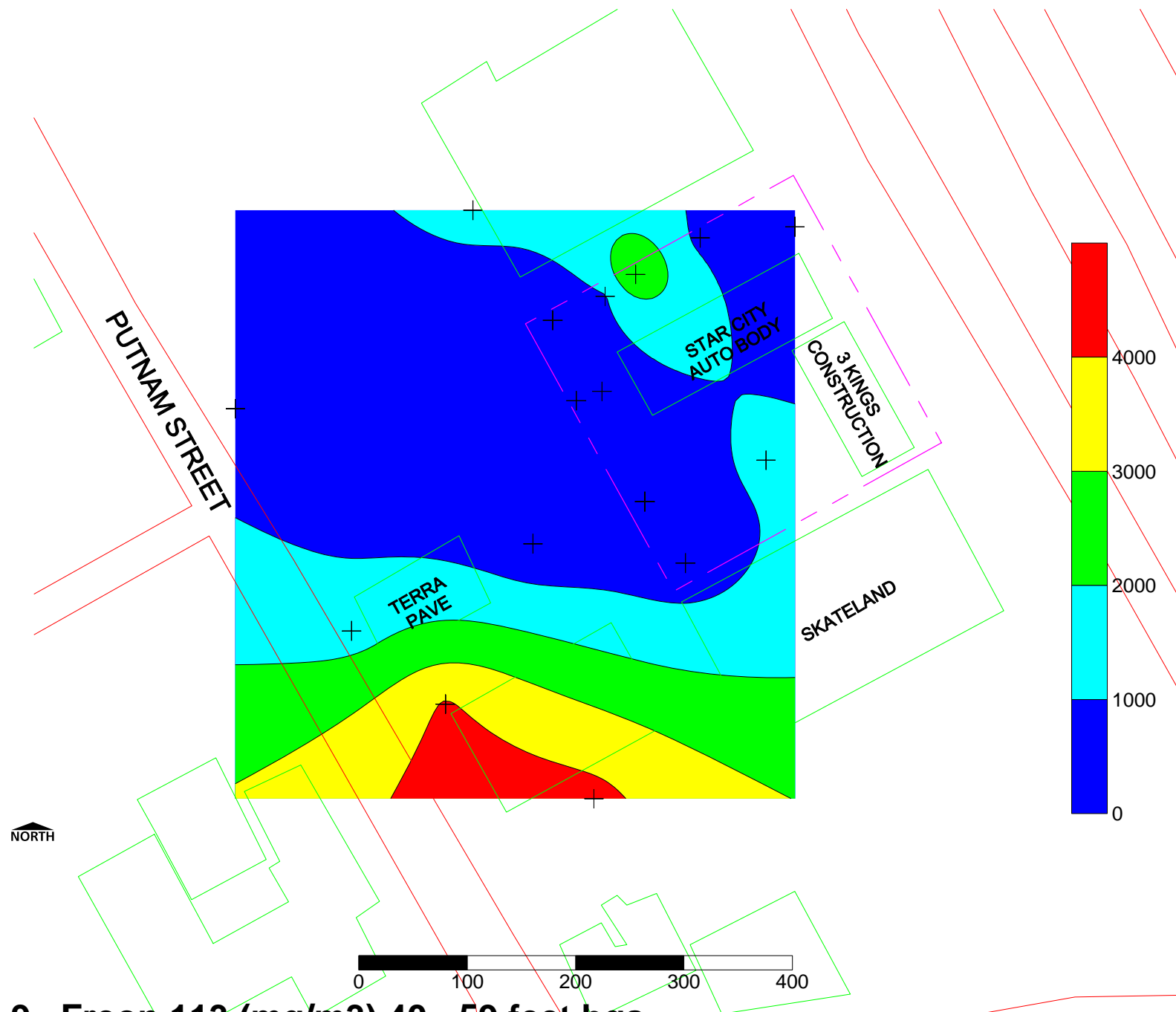


Figure 9. Freon 113 (mg/m³) 40 - 59 feet bgs

NORTH

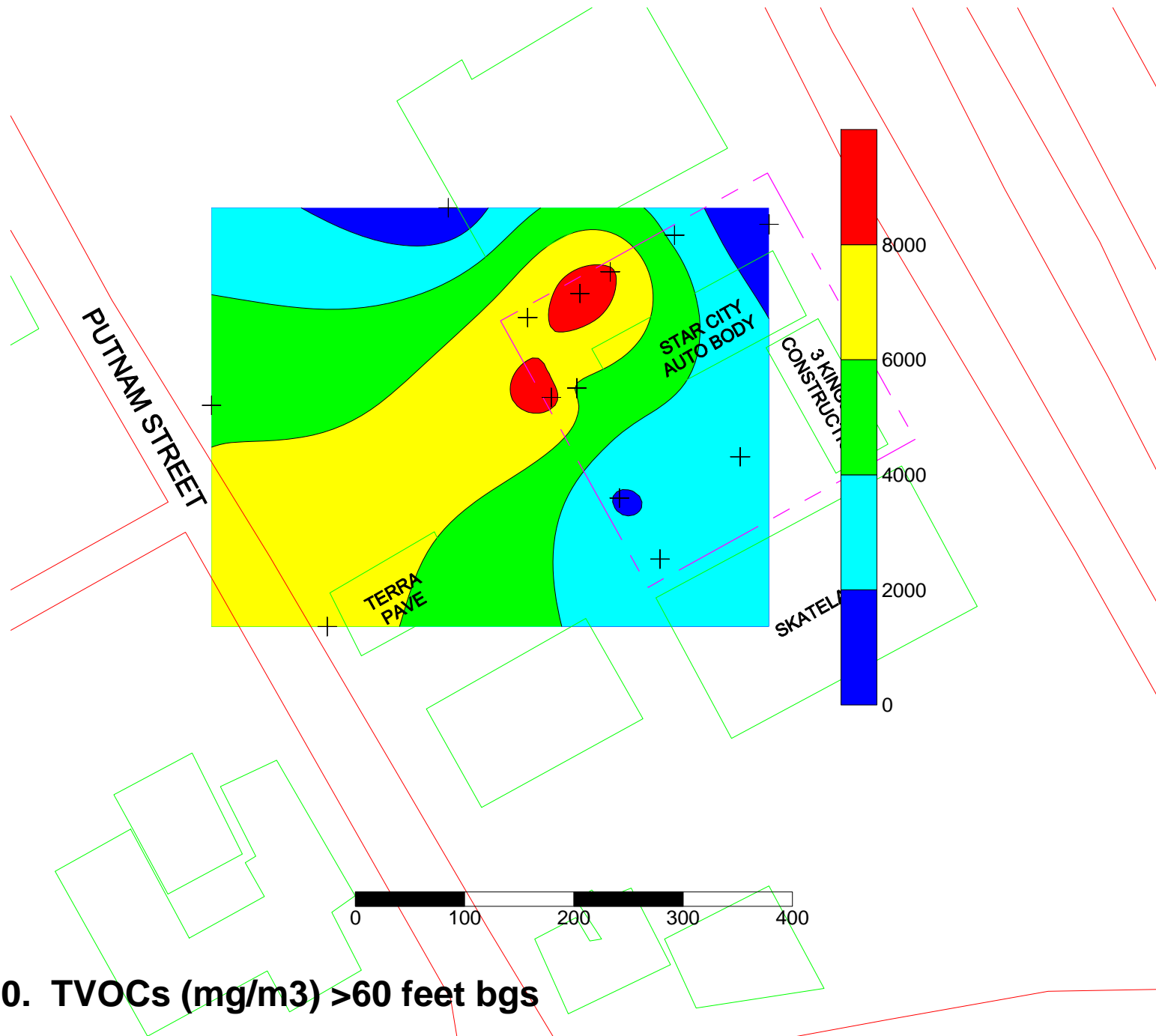


Figure 10. TVOCs (mg/m³) >60 feet bgs

NORTH

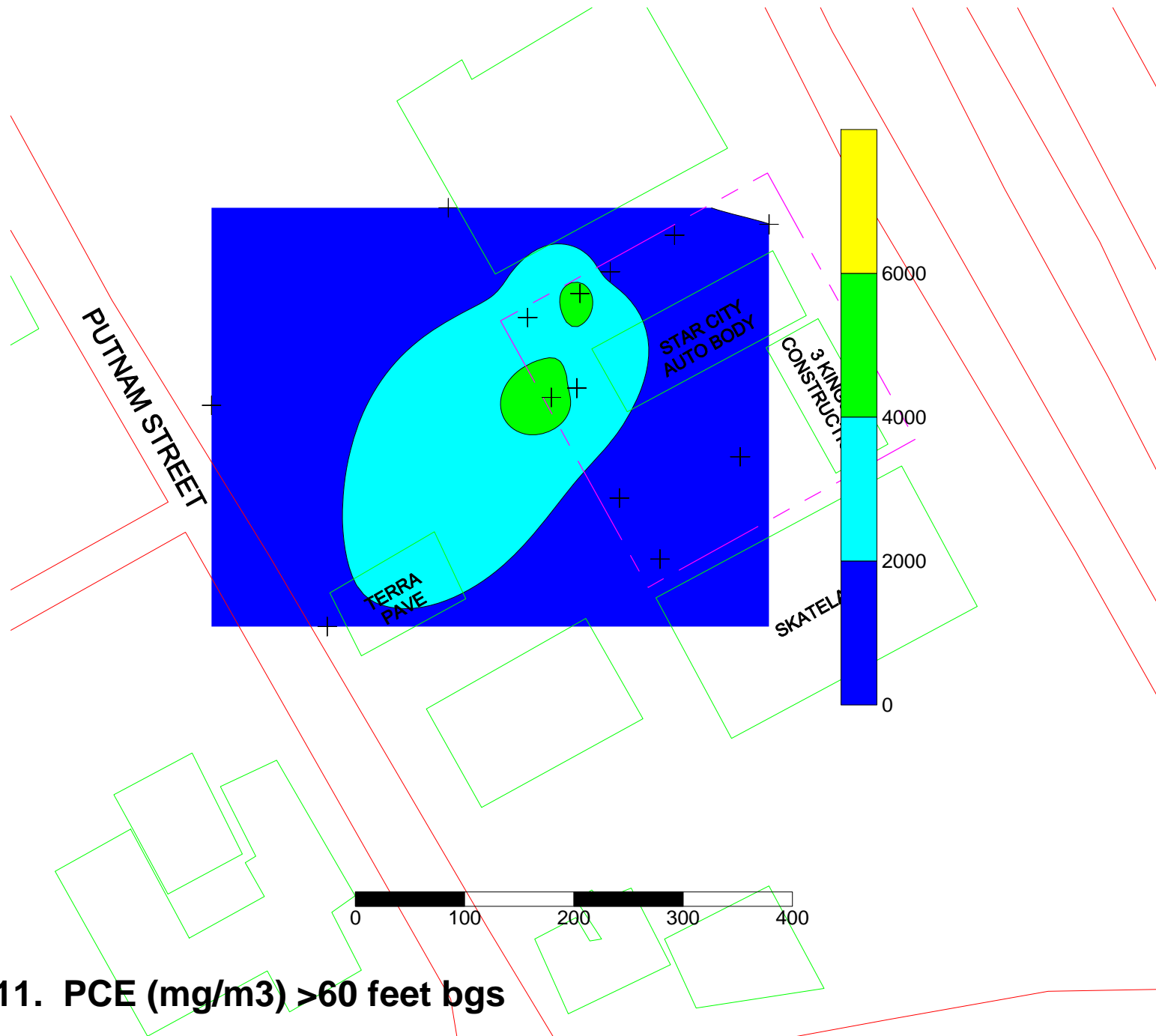


Figure 11. PCE (mg/m³) >60 feet bgs

NORTH

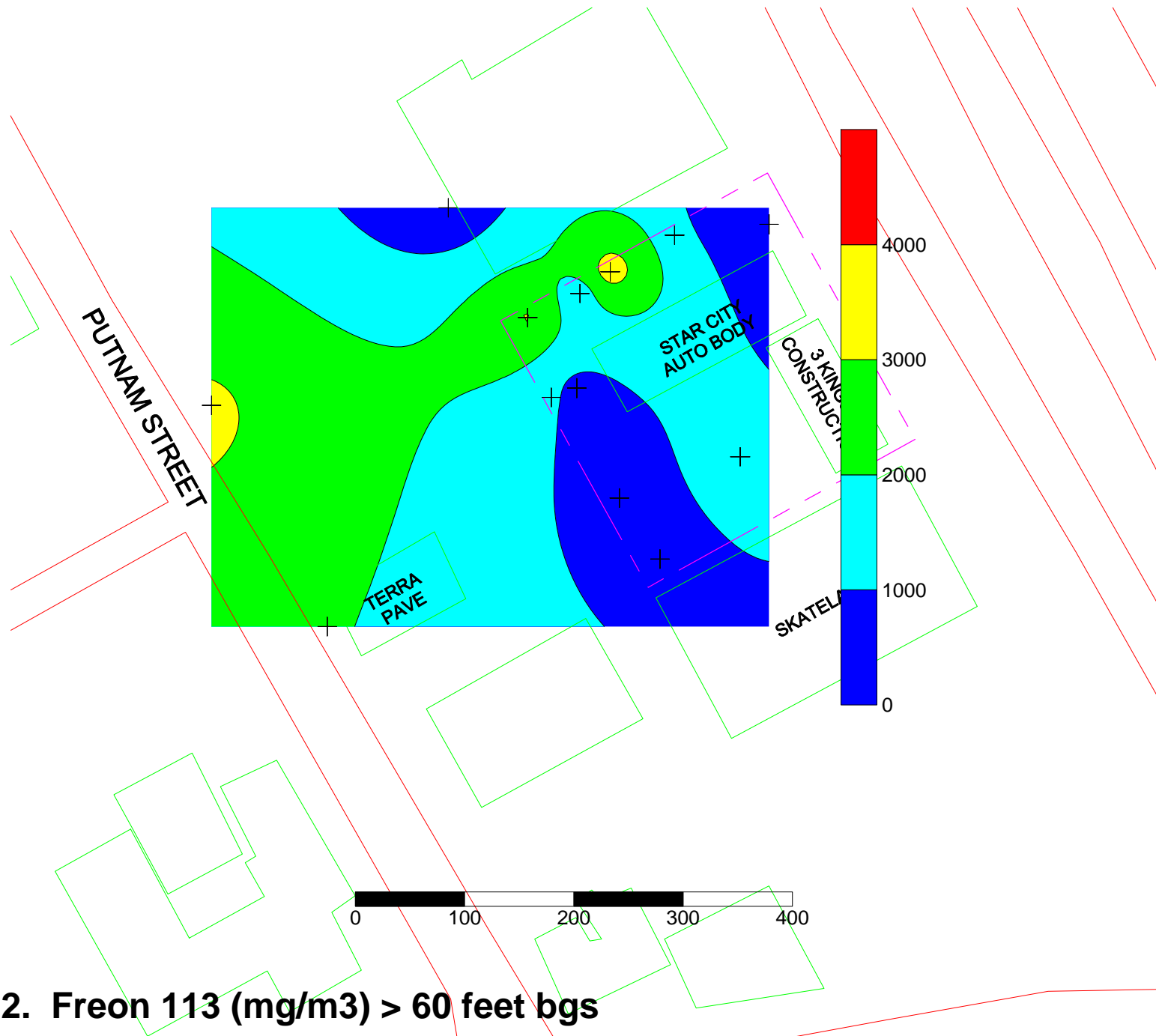


Figure 12. Freon 113 (mg/m³) > 60 feet bgs

Cross Section Visualization of ECE Sensor Reading

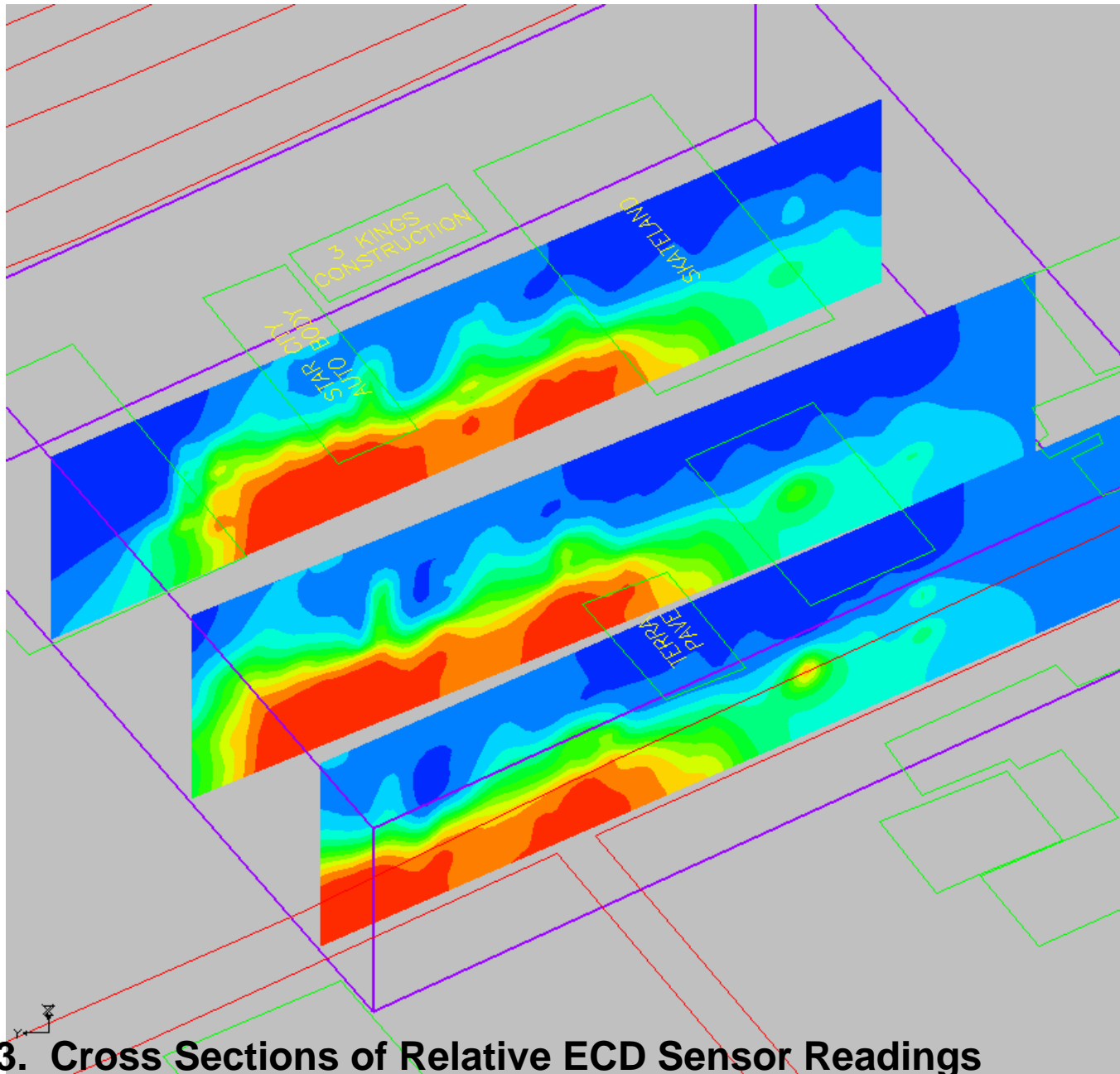


Figure 13. Cross Sections of Relative ECD Sensor Readings



Figure 14. Additional Field Investigation Sites